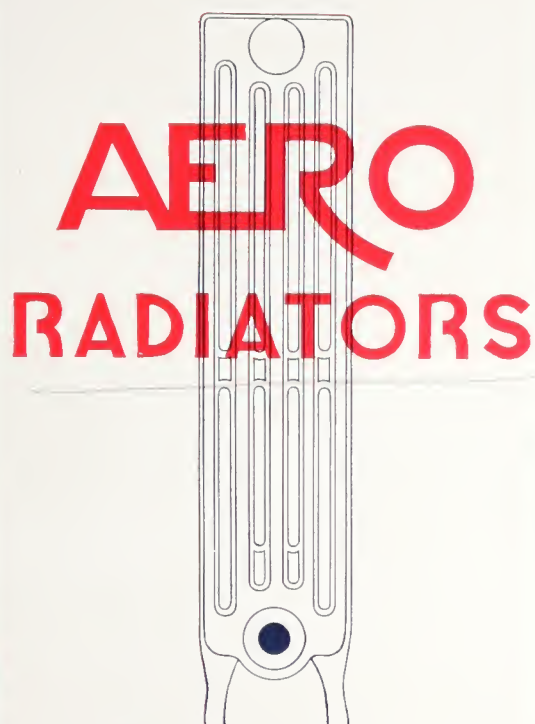


164-4.





AERO RADIATORS

Beauty
and
Warmth



CATALOG 34

NATIONAL RADIATOR COMPANY

JOHNSTOWN, PA.

PLANTS

Johnstown, Pa., New Castle, Pa., Trenton, N. J.

BRANCH OFFICES

New York	Richmond
Philadelphia	Pittsburgh
Baltimore	Cincinnati
Washington	Cleveland

Why Aero?

IS IT necessary for a radiator to be unsightly? Is it necessary for a line of radiators to be so large that it is almost prohibitively expensive for the jobber to carry a sufficient stock to fill orders immediately; and so complex that selection is difficult for the customer?

Is it necessary that part of the radiation area be ineffective, because of constricted air passages?

Engineers in the National Radiator Company have answered these questions in the negative by designing the Aero line.

This is one of the most notable innovations in the radiator field. Its beauty has shown women — who heretofore considered radiators unsightly necessary evils — that a radiator can be an attractive addition to the furnishings of the home.

Decreased water content (50% less than the ordinary radiator) and a large ratio of air space to radiation area gives high efficiency. These changes represent the latest development in radiator construction. That the principles are sound is proved by the fact that over 8,000,000 feet of Aero radiation are now in use, and are giving unqualified satisfaction.

The line has been reduced to three patterns and fourteen heights, with a standard section used throughout. The radiators are tapped top and bottom, both ends, and so may be used on steam, vapor, hot water, or any other approved heating system.

This combination of desirable qualities, in a line which every jobber can stock adequately and so ship immediately, results in quick turnover, easy sales, and satisfied customers.



Beauty and
Warmth

Beauty

THE graceful slenderness, the pleasing proportions, the fine lines of Aero radiators all contribute to make them highly attractive; in fact, they have been conceded by many to be the most beautiful radiators ever made.

The importance of this good appearance cannot be over-estimated. As the standard of living in America has risen, people are more and more demanding that the furnishings of their home be in quiet, good taste, harmonious, and convey an impression of refinement. The day has passed when utility was the sole quality sought; now beauty is equally in demand.

Heretofore, radiators often struck a discordant note in a well furnished room. Women, who specify most of the purchases of furnishings for the home, took small interest in them, for there was little choice — one was as unattractive as the other. Now, however, women who have seen the new Aero are broadcasting the message that here is a warming device that will harmonize with the most tastefully decorated room — will be an attractive addition to the furnishings.

There is another point, too, that is highly important — that of small width. The growing number of apartment houses, with their limited space — the trend towards small homes, with the same lack of space — has led to a necessity to conserve as much as is possible the area occupied by heating devices. The old, bulky radiators were unsatisfactory. Their place has been ably filled by the slender Aero. Beauty and compactness are a combination which means quick and easy sales. The Aero line gives them to you.



**Beauty and
Warmth**

Effectiveness

HEATING authorities unite in criticizing the old type of cast iron radiator construction, because the constricted air space reduces the effectiveness of the heating surface. Because of this, the listed radiator area gave no accurate indication of the performance which could be expected.

A glance at the ordinary radiator, and a condensation test — the true gauge of the effectiveness of a radiator — will show that the criticism of this type of construction is just.

In designing the Aero line, therefore, the engineers sought a construction in which there would be a proper relation between radiation area and air space, and attained it. The barrels are small — $1\frac{3}{8}$ inches wide — and the air spaces between barrels are $1\frac{1}{8}$ inches wide. This ratio has proved itself satisfactory, and permits the air to circulate freely.

The large air spaces also permit easy cleaning — a point that appeals greatly to women. The old radiators were notorious for the difficulty encountered when an attempt was made to clean them. The narrow, confined spaces between barrels and sections collected dirt and dust which could not be easily removed, and furnished a breeding place for germs.

Smaller barrels cut the water content in half, saving fuel and labor.

This new type of construction proves its worth as soon as a condensation test is made. On these, the Aero shows a maximum efficiency as compared with any other form of radiator construction. Its heating effectiveness delights all users, and installations of Aero radiators result in permanently satisfied customers.



Beauty and
Warmth

Simplification

THREE patterns and fourteen heights constitute the entire Aero line. The three and five-column radiators each are made in four, and the seven-column in six, heights. When it is considered that the average standard line consists of 40 to 50 different heights, this simplification appears as a real achievement.

The length of all sections is $2\frac{1}{2}$ inches. The widths are shown below, contrasted with the widths of the usual old type radiator.

	(Standard) Inches	(Aero) Inches
1 Column.....	$5\frac{1}{2}$...
2 Column.....	$8\frac{1}{2}$...
3 Column.....	9	$5\frac{1}{16}$
4 Column.....	$11\frac{1}{4}$...
5 Column.....	$12\frac{1}{2}$	$8\frac{3}{8}$
7 Column.....	...	12

These figures show how the Aero radiators can be substituted for old style types (either standard or window type, as the heights range from 12 to 36 inches) with less columns. The section sides are parallel, and the legs not flared.

All sections are tapped $1\frac{1}{2}$ inches top and bottom both ends. The top tappings are plugged, and the bottom ones bushed to any size desired. Only one type of leg section is used.

All roughing in measurements are from the floor to the center of the tapping boss, both feed and return.

With a comprehensive yet simplified line, comprised of radiators which may be used on hot water, steam, or vapor systems, the dealer is assured quick shipment of orders, easier selection for customers, and more rapid turnover.



**Beauty and
Warmth**

Costs

AS THE Aero Radiator line is an innovation so far as appearance and efficiency go, so is it in price. With all its attractiveness — its effectiveness — its easy salability — this line is sold at the standard cost sheet basis. No premium is charged.

With their many points of superiority, these radiators would naturally be expected to sell at a higher price. However, costs have been reduced to the absolute minimum permitted by the standards of material and workmanship set, and the profits placed at a low figure. This makes it possible to sell at the list price.

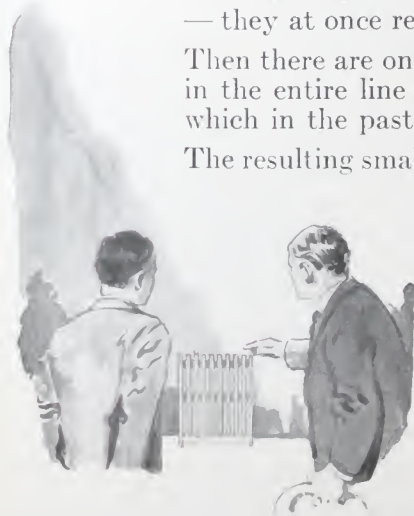
Even at a premium, Aero would be a profitable line. At the standard price, it is a rich source of profit. Consider — there are no separate models for the various heating systems. Any Aero radiator can be used on steam, hot water, vapor, or other approved heating system.

The fact that all the models are slender, graceful and beautiful, and will really be attractive additions to the furnishings of any room, helps greatly in making quick sales. Customers do not hesitate after seeing the Aero — they at once recognize it as a superior product.

Then there are only three patterns and fourteen heights in the entire line — about one-third the usual number which in the past has been considered standard.

The resulting small stock means easier selection for your customers, and quicker turnover. You need not be told the importance of this, or how much more profitable a quick moving, easy selling article is to you.

Aero radiators mean satisfied customers and larger profits.



Beauty and
Warmth

Is it attractive?

Is it effective?

Is the price right?

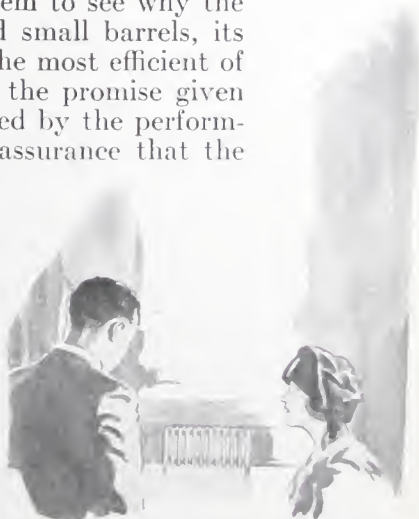
THESE are all questions which every prospect asks himself, consciously or unconsciously, before deciding to buy. When your product is such that all three of the questions can be answered in the affirmative — your sale is made.

Such a product is the Aero line of radiators. Their slender beauty of line and proportion make them irresistibly attractive to women, who have the greatest voice in specifying the furnishings for the home. Heretofore women concerned themselves little with the radiators, simply because there was little to choose, so far as appearance went, between the various types.

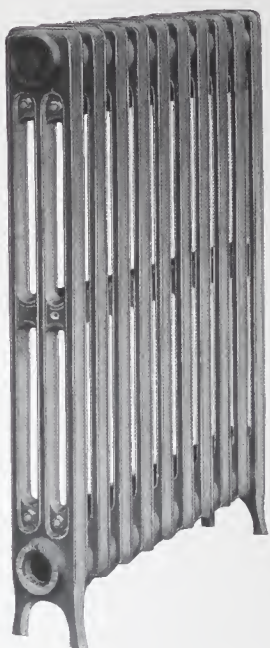
With the coming of the Aero, however, women have found that radiators can be decorative as well as useful; and Aeros are getting the women's vote.

The question of effectiveness is one which usually interests men. No technical training is required on the part of your customers to enable them to see why the Aero, with its large air spaces, and small barrels, its 100% effective radiation surface, is the most efficient of radiators. And you, knowing that the promise given by the correct construction is fulfilled by the performance, can unhesitatingly add your assurance that the radiator will furnish the heat required.

The price on the Aero is right — it is sold at standard prices. All these exclusive features, without any premium charge, make Aero radiators a real bargain.



Beauty and
Warmth



Three-Column Radiator

THIS model is especially adapted to use in the small home, apartment, school building, or any place where space is limited.

The graceful slenderness and pleasing proportions of this radiator make it harmonize perfectly with the furnishings of the most dainty room; it is more than a mere heating device — it is actually an attractive piece of furniture.

In common with the other models of the Aero line, this radiator is highly efficient — due to its correct design, which incorporates a large ratio of air space to radiation area. This feature also brings about another desirable feature — it is easy to clean between the sections, and underneath.

Beauty and
Warmth

AERO Three-Column Radiators

SIZES AND RATINGS

No. of Sections	*Length 2½-in. per Sec.	Square Feet — Heating Surface			
		36-in. Height 3¾ Sq. Ft. per Sec.	30-in. Height 2¾ 3 Sq. Ft. per Sec.	26-in. Height 2¾ Sq. Ft. per Sec.	20-in. Height 1¾ Sq. Ft. per Sec.
2	5	7⅓	6	5⅓	3½
3	7½	11	9	8	5¼
4	10	14⅔	12	10⅔	7
5	12½	18⅓	15	13⅓	8¾
6	15	22	18	16	10½
7	17½	25⅔	21	18⅔	12¼
8	20	29⅓	24	21⅓	14
9	22½	33	27	24	15¾
10	25	36⅔	30	26⅔	17½
11	27½	40⅓	33	29⅓	19¼
12	30	44	36	32	21
13	32½	47⅔	39	34⅔	22¾
14	35	51⅓	42	37⅓	24½
15	37½	55	45	40	26¼
16	40	58⅔	48	42⅔	28
17	42½	62⅓	51	45⅓	29¾
18	45	66	54	48	31½
19	47½	69⅔	57	50⅔	33¼
20	50	73⅓	60	53⅓	35
21	52½	77	63	56	36¾
22	55	80⅔	66	58⅔	38½
23	57½	84⅓	69	61⅓	40¼
24	60	88	72	64	42
25	62½	91⅔	75	66⅔	43¾
26	65	95⅓	78	69⅓	45½
27	67½	99	81	72	47¼
28	70	102⅔	84	74⅔	49
29	72½	106⅓	87	77⅓	50¾
30	75	110	90	80	52½
31	77½	113⅔	93	82⅔	54¼
32	80	117⅓	96	85⅓	56

*Add ½ inch to length for each bushing.

Width of feet, 5⅛ inches.

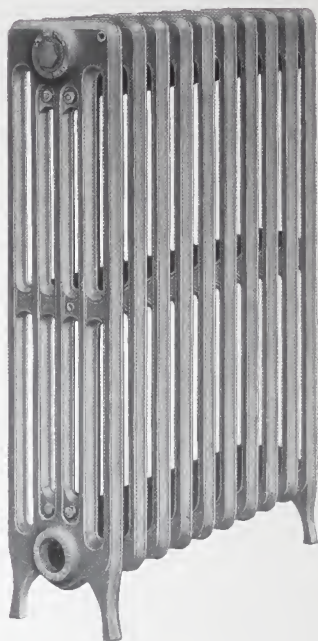
Width of section, 5⅛ inches.

Height from floor to center of tapping boss, both feed and return, for steam and water, 4½ inches.

Aero Three-Column Radiators are tapped 1½ inches top and bottom both ends and bushed to sizes required. All radiators are connected at top and bottom with Heavy Malleable Iron Push Nipples and are vented for both Steam and Hot Water. They consequently can be used on any kind of a Steam, Vapor or Hot Water Heating System.

Aero Radiators are furnished legless or with legs 6 inches from floor to center of tapping boss when ordered.

Beauty and Warmth



Five-Column Radiator

THIS is an extremely popular model, with a wide field of use, in homes, schools, and apartments. Its heating capacity is sufficiently great to make it adequate for any but very large rooms.

Its greater width has given 35% more radiation area than is present in the three-column type, but with no sacrifice of beauty or grace.

Here, as in the other models, the small barrels and large air spaces contribute to high efficiency. The water content is approximately half that of an equivalent old type of radiator.

Beauty and
Warmth

AERO Five-Column Radiators

SIZES AND RATINGS

No. of Sections	*Length 2½-in. per Sec.	Square Feet — Heating Surface			
		36-in. Height 5 Sq. Ft. per Sec.	30-in. Height 4 Sq. Ft. per Sec.	26-in. Height 3¼ Sq. Ft. per Sec.	20-in. Height 3 Sq. Ft. per Sec.
2	5	10	8	7½	6
3	7½	15	12	11¼	9
4	10	20	16	15	12
5	12½	25	20	18¾	15
6	15	30	24	22½	18
7	17½	35	28	26¼	21
8	20	40	32	30	24
9	22½	45	36	33¾	27
10	25	50	40	37½	30
11	27½	55	44	41¼	33
12	30	60	48	45	36
13	32½	65	52	48¾	39
14	35	70	56	52½	42
15	37½	75	60	56¼	45
16	40	80	64	60	48
17	42½	85	68	63¾	51
18	45	90	72	67½	54
19	47½	95	76	71¼	57
20	50	100	80	75	60
21	52½	105	84	78¾	63
22	55	110	88	82½	66
23	57½	115	92	86¼	69
24	60	120	96	90	72
25	62½	125	100	93¾	75
26	65	130	104	97½	78
27	67½	135	108	101¼	81
28	70	140	112	105	84
29	72½	145	116	108¾	87
30	75	150	120	112½	90
31	77½	155	124	116¼	93
32	80	160	128	120	96

*Add ½ inch to length for each bushing.

Width of feet, 8⅜ inches.

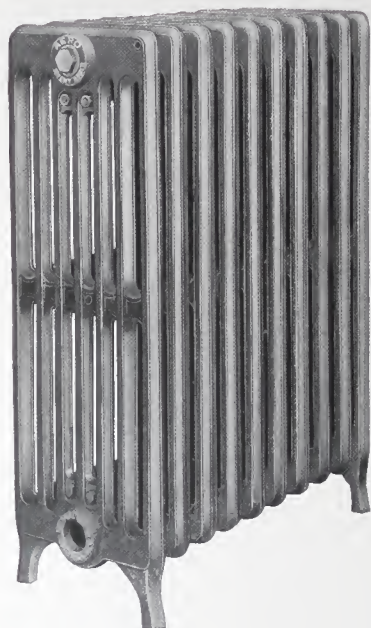
Width of section, 8⅝ inches.

Height from floor to center of tapping boss, both feed and return, for steam and water, 4½ inches.

Aero Five-Column Radiators are tapped 1½ inches top and bottom both ends and bushed to sizes required. All radiators are connected at top and bottom with heavy Malleable Iron Push Nipples and are vented for both Steam and Hot Water. They consequently can be used on any kind of a Steam, Vapor or Hot Water Heating System.

Aero Radiators are furnished legless or with legs 6 inches from floor to center of tapping boss when ordered.

Beauty and Warmth



Seven-Column Radiator

THIS radiator may properly be called a concentrated unit. With its seven columns, it is the equivalent in heating effectiveness of two ordinary radiators.

In large rooms, offices, store buildings and other places where several radiators would ordinarily be used, but where limited space or other factors make one preferable, this radiator offers an easy solution to the problem.

Correct design is responsible not only for this unit's high efficiency, but likewise for its attractiveness.

Beauty and
Warmth

AERO Seven-Column Radiators

SIZES AND RATINGS

No. of Sections	Square Feet — Heating Surface			
	*Length 2½-in. per Sec.	36-in. Height 7 Sq. Ft. per Sec.	30-in. Height 6½ Sq. Ft. per Sec.	26-in. Height 5½ Sq. Ft. per Sec.
2	5	14	12⅔	10½
3	7½	21	19	15¾
4	10	28	25⅓	21
5	12½	35	31⅔	26¼
6	15	42	38	31½
7	17½	49	44⅓	36¾
8	20	56	50⅔	42
9	22½	63	57	47¼
10	25	70	63⅓	52½
11	27½	77	69⅔	57¾
12	30	84	76	63
13	32½	91	82⅓	68¼
14	35	98	88⅔	73½
15	37½	105	95	78¾
16	40	112	101⅓	84
17	42½	119	107⅔	89¼
18	45	126	114	94½
19	47½	133	120⅓	99¾
20	50	140	126⅔	105
21	52½	147	133	110¼
22	55	154	139⅓	115½
23	57½	161	145⅔	120¾
24	60	168	152	126
25	62½	175	158⅓	131¼
26	65	182	164⅔	136½
27	67½	189	171	141¾
28	70	196	177⅓	147
29	72½	203	183⅔	152¼
30	75	210	190	157½
31	77½	217	196⅓	162¾
32	80	224	202⅔	168

*Add ½ inch to length for each bushing.

Width of feet, 12 inches.

Width of section, 12 inches.

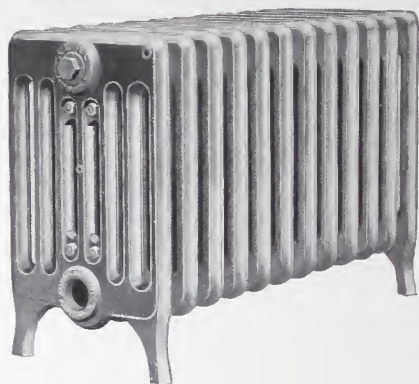
Height from floor to center of tapping boss, both feed and return, steam and water, 4½ inches.

Aero Seven-Column Radiators are tapped 1½ inches top and bottom both ends and bushed to sizes required. All radiators are connected at top and bottom with Heavy Malleable Iron Push Nipples and are vented for both Steam and Hot Water.

They consequently can be used on any kind of a Steam, Vapor or Hot Water Heating System.

Aero Radiators are furnished legless or with legs 6 inches from floor to center of tapping boss when ordered.

Beauty and
Warmth



Window Radiator

HERE is a window radiator that will delight all those who who have rooms in which this type can be effectively utilized.

This is one of the most difficult of radiators to properly design, as the low height tends to give a squatty appearance. The picture shows how successfully National engineers have solved the problem. Height and width — the size of the barrels — all proportions have been so balanced that the radiator is graceful and beautiful.

Of course the same correct engineering principles have been applied in this as in the other types; the heating effectiveness is high. And the open construction makes it easy to clean between sections, and underneath.

Beauty and
Warmth

AERO Seven-Column Window Radiators

SIZES AND RATINGS

No. of Sections	Square Feet — Heating Surface			
	*Length 2½-in. per Sec.	20-in. Height 4½ Sq. Ft. per Sec.	16½-in. Height 3¾ Sq. Ft. per Sec.	13½-in. Height 3½ Sq. Ft. per Sec.
2	5	9	7½	6½
3	7½	13½	11¼	9¾
4	10	18	15	13
5	12½	22½	18¾	16¼
6	15	27	22½	19½
7	17½	31½	26¼	22¾
8	20	36	30	26
9	22½	40½	33¾	29¼
10	25	45	37½	32½
11	27½	49½	41¼	35¾
12	30	54	45	39
13	32½	58½	48¾	42¼
14	35	63	52½	45½
15	37½	67½	56¼	48¾
16	40	72	60	52
17	42½	76½	63¾	55¼
18	45	81	67½	58½
19	47½	85½	71¼	61¾
20	50	90	75	65
21	52½	94½	78¾	68¼
22	55	99	82½	71½
23	57½	103½	86¼	74¾
24	60	108	90	78
25	62½	112½	93¾	81¼
26	65	117	97½	84½
27	67½	121½	101¼	87¾
28	70	126	105	91
29	72½	130½	108¾	94¼
30	75	135	112½	97½
31	77½	139½	116¼	100¾
32	80	144	120	104

*Add ½ inch to length for each bushing.

Width of feet, 12 inches.

Width of section, 12 inches.

Height from floor to center of tapping boss, both feed and return, on 20-inch height, 4½ inches; on 16½-inch and 13½-inch heights, 3 inches.

The 16½-inch and 13½-inch heights are made regularly with low legs.

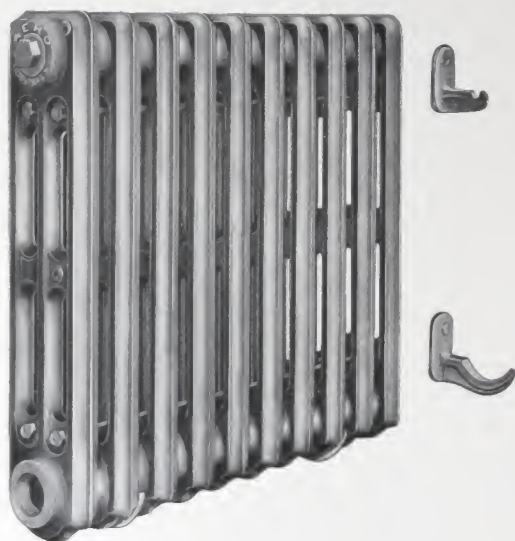
When ordered they will be equipped with regular legs, which will increase their heights to 18 inches and 15 inches respectively, and the distance from floor to center of tapping boss to 4½ inches.

Aero Seven-Column Radiators are tapped 1½ inches top and bottom both ends and bushed to sizes required. All radiators are connected at top and bottom with Heavy Malleable Iron Push Nipples and are vented for both Steam and Hot Water.

They consequently can be used on any kind of a Steam, Vapor or Hot Water Heating System.

Aero Radiators are furnished legless or with legs 6 inches from floor to center of tapping boss when ordered.

Beauty and
Warmth



Legless Radiator

ORIGINALLY developed for schools, office buildings and for industrial use, this radiator has been adapted to use in the bath room — a service for which it is admirably fitted.

It can be suspended on its hangers up off the floor, out of the way. Its width is small — a valuable feature, as space in the modern bath room is usually limited.

Another appealing feature is found in the fact that the radiator can be enameled any color desired, to harmonize with the decorations of the bath room. The white, blue, or other color scheme can thus be carried throughout.

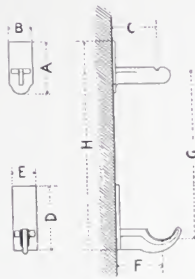
Beauty and
Warmth

Aero Legless Radiators

SIZES AND RATINGS

Data as to sizes and ratings on the three-column type appear on page 9; five-column, page 11; seven-column, page 13.

Concealed Brackets

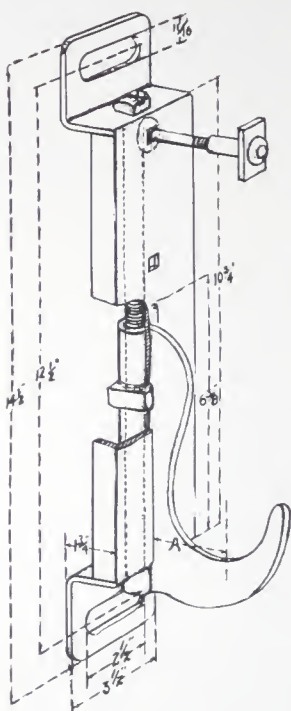


Dimensions	Top — Inches			Dimension — "G" — Inches				
	A	B	C	36	30	26	23	20
Three-Column.....	4 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{5}{8}$	28 $\frac{1}{4}$	22 $\frac{1}{4}$	18 $\frac{1}{4}$	15 $\frac{1}{4}$	12 $\frac{1}{4}$
Five-Column.....	6	2 $\frac{1}{2}$	4 $\frac{1}{8}$	28 $\frac{1}{4}$	22 $\frac{1}{4}$	18 $\frac{1}{4}$	15 $\frac{1}{4}$	12 $\frac{1}{4}$
Seven-Column.....	5 $\frac{1}{8}$	2 $\frac{1}{2}$	6 $\frac{3}{8}$	28 $\frac{1}{4}$	22 $\frac{1}{4}$	18 $\frac{1}{4}$	15 $\frac{1}{4}$	12 $\frac{1}{4}$

Dimensions	Bottom — Inches			Dimension — "H" — Inches				
	D	E	F	36	30	26	23	20
Three-Column.....	4 $\frac{3}{8}$	2 $\frac{1}{2}$	3 $\frac{1}{2}$	32 $\frac{13}{16}$	26 $\frac{13}{16}$	22 $\frac{13}{16}$	19 $\frac{13}{16}$	16 $\frac{13}{16}$
Five-Column.....	6	2 $\frac{1}{2}$	5 $\frac{1}{8}$	34 $\frac{7}{8}$	28 $\frac{7}{8}$	24 $\frac{7}{8}$	21 $\frac{7}{8}$	18 $\frac{7}{8}$
Seven-Column.....	6 $\frac{1}{4}$	2 $\frac{1}{2}$	7	33 $\frac{11}{16}$	27 $\frac{11}{16}$	23 $\frac{11}{16}$	20 $\frac{11}{16}$	17 $\frac{11}{16}$

Beauty and
Warmth

Aero Adjustable Radiator Hanger



With the increasing popularity of the legless type radiator has come a need for an easily installed, effective support. This need has been filled by the Aero pressed steel adjustable radiator hanger.

Anchor bolts (furnished with the hanger) are all that is required for securing to the wall. Backing strips are unnecessary, as the radiator is held at a sufficient distance from the wall to permit a free circulation of air. The device is adjustable $2\frac{1}{2}$ inches horizontally, and 5 inches vertically, which eliminates the necessity for minutely exact measurements in installing. The parts are made of pressed steel.

These hangers are strong, simple, easy to install, and thoroughly effective.

"A"

Measurements

3 column	-----	$2\frac{1}{2}$ "
5 column	-----	$4\frac{1}{2}$ "
7 column	-----	6"

Beauty and
Warmth

Aero Radiators

Top and Bottom Tappings

THE figures given below indicate the distance between center of upper and lower tappings for top feed and bottom return at same end on all Aero Radiators.

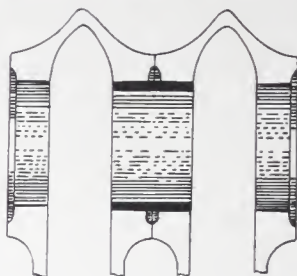
To secure the distance from floor to center of top tapping, add to the following figures, the distance from floor to center of bottom tapping. The distance from the floor to the center of bottom tapping on all radiators, except 16½-inch and 13½-inch seven-column, is 4½ inches. The distance from the floor to the center of the bottom tapping on 16½-inch and 13½-inch seven-column is 3 inches.

Height Inches	Three- Column Inches	Five- Column Inches	Seven- Column Inches
36	29½	29½	29½
30	23½	23½	23½
26	19½	19½	19½
23	16½	16½	16½
20	13½	13½	13½
16½	11½
13½	8½

Beauty and
Warmth

Exclusive Features

The Push-Nipple Connection



Numerous advantages are possessed by this type of connection. Assembly of the sections is much easier and quicker. In case it ever becomes necessary to take the radiator apart, it can be done in a fraction of the time required when the threaded connection is used. The metal to metal joint is thoroughly effective; no annoying leaks appear, when the radiator is put in service.

Light Weight

Lightness is an outstanding feature of the Aero radiators — a feature that will appeal to all dealers. There is an immediate saving in freight rates which results. The radiators are more easily transported, and a smaller crew is required in placing them. The lightness was attained by eliminating dead metal; there has been no sacrifice of strength or durability.

Wide Spacing

Women customers will find this a strong additional argument for buying Aero radiators. The wide spacing between sections, and between barrels, permits the housewife to clean the radiator thoroughly with no trouble. Those who have had experience with the old, cramped type of dust catching radiator will hail this new departure with enthusiasm. This spacing, as has been explained, also increases the efficiency greatly.

Beauty and
Warmth



AERO RADIATORS

